

**The Acadia Hospital
Penobscot County
Bangor, Maine
A-234-71-J-R/M**

**Departmental
Findings of Fact and Order
Air Emission License**

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

The Acadia Hospital of Bangor, Maine has applied to renew their Air Emission License permitting the operation of emission sources associated with their health care facility.

Acadia Hospital has requested that the hours of operation for the emergency generator be increased to 500 hours/year on a 12-month rolling total basis.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Stack #</u>
Boiler #1	6.3	45	#2, 0.25%	1
Boiler #2	6.3	45	#2, 0.25%	1
Boiler #3	2.1*	15	#2, 0.25%	1

*The burner is rated at 2.1 MMBtu/hr. The boiler is rated at 3.1 MMBtu/hr.

Electrical Generation Equipment

<u>Equipment</u>	<u>Power Output (kW)</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Stack #</u>
Generator #1	350	4.02	28.7	#2, 0.25%	2

C. Application Classification

The application for Acadia Hospital does not include the licensing of new or modified equipment. It does include increased emissions from the increase of the generator's operating hours. Emissions will be increased by less than 4 tons/year for each single pollutant and by less than 8 tons/year for all pollutants combined, therefore the license is considered to be a renewal of current licensed emission units plus a minor revision.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Department regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Boilers #1, #2 and #3

Acadia Hospital operates three oil-fired boilers. Boilers #1 and #2 were manufactured in 1992 with maximum heat input capacities of 6.3 MMBtu/hr each. Boiler #3 was manufactured in 1996 and has a maximum heat input capacity of 2.1 MMBtu/hr. The boilers fire #2 fuel oil with a maximum sulfur content not to exceed 0.25% by weight and are used to provide heat and hot water at the facility. The boilers exhaust to a common stack.

Boilers #1, #2 and #3 are not subject to New Source Performance Standards (NSPS) Subpart Dc for steam generating units greater than 10 MMBtu/hr manufactured after June 9, 1989.

A summary of the BPT analysis for Boilers #1, #2 and #3 is the following:

1. Total fuel use for the boilers at the facility shall not exceed 125,000 gal/year of #2 fuel oil, based on a 12 month rolling total, with a maximum sulfur content not to exceed 0.25% by weight.

2. Chapter 106 regulates fuel sulfur content, however in this case a BACT analysis for SO₂ determined a more stringent limit of 0.25% was appropriate and shall be used.
 3. Chapter 103 regulates PM emission limits. The PM₁₀ limits are derived from the PM limits.
 4. NO_x emission limits are based on data from similar #2 fired boilers of this size and age.
 5. CO and VOC emission limits are based upon AP-42 data dated 9/98.
 6. Visible emissions from the combined stack for Boilers #1, #2 and #3 shall not exceed 30% opacity on a 6-minute block average basis, except for no more than one 6-minute block average in a 3-hour period.
- C. Emergency Generators
- Acadia Hospital operates Generator #1 for emergency electrical generation. Generator #1 is rated at 4.02 MMBtu/hr heat input (350 kW) and fires #2 fuel oil with a maximum sulfur content of 0.25% by weight.

The generator is for emergency use only, as defined in the following paragraph, and shall be limited to 500 hours of operation per year on a rolling total basis.

‘Emergency’ is defined in Chapter 100 and throughout this document as:

“... any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology based emission limitation under the license, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.”

BACT for Generators #1 is the following:

1. Generator #1 shall fire only #2 fuel oil with a maximum sulfur content not to exceed 0.25% by weight.
2. The emergency generator shall not exceed 500 hours/year of operation, based on a 12-month rolling total.
3. Chapter 106 regulates fuel sulfur content, however in this case the BACT analysis for SO₂ determines a more stringent limit of 0.25% for #2 fuel oil are appropriate and shall be used.
4. Chapter 103 regulates PM emission limits. The PM₁₀ limits are derived from the PM limits.
5. NO_x, CO, and VOC emission limits are based upon AP-42 data dated 10/96.
6. Visible emissions from Generator #1 shall not exceed 20% opacity on a 6-minute block average basis, except for no more than two 6-minute block averages in a 3-hour period.

D. Annual Emissions

Acadia Hospital shall not exceed the following annual emissions, based on a 12-month rolling total. Annual emissions were calculated based on the following:

- The firing of 125,000 gallons of #2 fuel oil in the boilers, with a sulfur content not to exceed 0.25% by weight; and,
- 500 hours of operation of the emergency generator.

**Total Licensed Annual Emissions for the Facility
Tons/year
(used to calculate the annual license fee)**

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Boilers	1.05	1.05	2.21	2.63	0.32	0.03
Generator #1	0.20	0.20	0.26	4.43	0.96	0.36
Total TPY	1.25	1.25	2.47	7.06	1.28	0.39

III.AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Based on the above total facility emissions, Acadia Hospital is below the emissions level required for modeling and monitoring.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-234-71-J-R/M subject to the following conditions:

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (Title 38 MRSA §347-C).

- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [MEDEP Chapter 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [MEDEP Chapter 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [MEDEP Chapter 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [MEDEP Chapter 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [MEDEP Chapter 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [MEDEP Chapter 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [MEDEP Chapter 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [MEDEP Chapter 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [MEDEP Chapter 115]

- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
- A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - 1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 - 2. pursuant to any other requirement of this license to perform stack testing.
 - B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - C. submit a written report to the Department within thirty (30) days from date of test completion.
- [MEDEP Chapter 115]
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
- [MEDEP Chapter 115]
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [MEDEP Chapter 115]

- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [MEDEP Chapter 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [MEDEP Chapter 115]

SPECIFIC CONDITIONS

(16) **Boilers #1, #2 and #3**

- A. Total fuel use in the boilers shall not exceed 125,000 gallons/year of #2 fuel oil with a maximum sulfur content not to exceed 0.25% by weight. Compliance shall be demonstrated by fuel receipts from the supplier showing the quantity of fuel delivered and the sulfur analyses showing the percent sulfur of the fuel. Records of annual fuel use shall be kept on a 12-month rolling total basis. [MEDEP Chapter 115, BPT]
- B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #1	PM	0.12	MEDEP, Chapter 103, Section 2(B)(1)(a)
Boiler #2	PM	0.12	MEDEP, Chapter 103, Section 2(B)(1)(a)

- C. Emissions shall not exceed the following [MEDEP Chapter 115, BPT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	0.8	0.8	1.59	1.89	0.23	0.02
Boiler #2	0.8	0.8	1.59	1.89	0.23	0.02
Boiler #3	0.26	0.26	0.53	0.63	0.08	0.01

- D. Visible emissions from the combined stack for Boilers #1, #2 and #3 shall not exceed 30% opacity on a 6-minute block average basis, except for no more than one 6-minute block average in a 3-hour period. [MEDEP Chapter 101]

(17) **Emergency Generator #1**

- A. Acadia Hospital shall limit the Generator #1 to 500 hr/yr of operation (based on a 12 month rolling total). An hour meter shall be maintained and operated on the Emergency Generator. [MEDEP Chapter 115, BPT]
- B. The emergency generator shall be operated for emergency purposes only or for short periods to exercise the machine and keep it in operating order. A log documenting the date, time, and reason of operation for the Emergency Generator shall be kept. [MEDEP Chapter 115, BPT]
- C. The Emergency Generator shall fire #2 fuel oil with a sulfur limit not to exceed 0.25% by weight. Compliance shall be based on fuel receipts from the supplier showing the quantity of fuel delivered and sulfur analyses showing the percent sulfur of the fuel. [MEDEP Chapter 115, BPT]
- D. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator #1	PM	0.20	MEDEP, Chapter 103, Section 2(A)(1)

- E. Emissions shall not exceed the following [MEDEP Chapter 115, BPT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1	0.81	0.81	1.1	17.8	3.9	1.41

- F. Visible emissions from Generator #1 shall not exceed 20% opacity on a 6-minute block average basis, except for no more than two 6-minute block averages in a 3-hour period. [MEDEP Chapter 101]
- (18) Acadia Hospital shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 MRSA §605).
- (19) **Payment of Annual License Fee**
Acadia Hospital shall pay the annual air emission license fee within 30 days of May 31 of each year. Pursuant to 38 MRSA 353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under 38 MRSA 341-D, subsection 3.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2004.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAWN R. GALLAGHER, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: April 22, 2004

Date of application acceptance: April 28, 2004

Date filed with the Board of Environmental Protection: _____

This Order prepared by Rachel E. Pilling, Bureau of Air Quality.